The memetic basis of religion

SIR — Both B. D. Josephson[1] and, earlier, A. Baidins[2] seek to find a way to study religion scientifically and they offer as a starting point the assumption that the ability to experience religious feelings may be encoded in the genes. Religion then is selected because "the central theme of religion is the attempt to maximize human goodness" and "because societies in which this potential is actualized . . . will tend to function more harmoniously and more efficiently"[1] or because "some humans are dimly aware of another dimension in this Universe . . . which helps them make more constructive decisions than those people lacking such a faculty"[2].

In my opinion, one should be very careful not to confuse different conceptual categories, such as atoms, genes, organisms, intelligence and thoughts.

In any case, I prefer to look at religion as an emergent characteristic, which can arise only after other levels have come to full development. Looking at it this way, religion has to do with the confrontation of our animal emotionality with our human superintelligence. I will try briefly to explain.

Animals have evolved as organisms that tend to reach what could be called 'hormonal equilibrium', which people call happiness. By performing certain tasks — feeding, fighting and sexual behaviour, which ultimately have the single purpose of multiplying the genes present — the animal is rewarded: it experiences joy, relief, satisfaction, or 'happiness'. For the genes, this is at a different level in the conceptual hierarchy, an elegant, effective and universally applicable solution. Thus, regarding animals and humans as basically emotional beings is the first cornerstone in any hypothesis. The ability to enjoy and to fear underlies the evolutionary development of intelligence; animals and children learn through joy and fear, and experience emotional reward when making new discoveries.

The selective advantage of intelligence is easy to see: intelligence allows the storage of information from the past to tackle current situations more efficiently.

The superintelligence of human beings, however, is something else. Its capacity for making associations leads to unlimited fantasy and allows even speculation about the future. But that leads to a fundamental problem: animals fall asleep after a good meal or feel relieved after escaping a predator, but humans lose their ability fully to enjoy the present happiness because of anxiety over whether they will find food tomorrow or escape next time. And they do so on every possible occasion. Will our children grow happily? Will I pass my exam? Will I see her again? What will happen when I die? For humans, instant animal anger and joy turn into endless fear and longing. Because mental events can strongly influence neuro-endocrinological functioning (and vice versa), humans become uncertain and are prone to depression.

Religious belief, in my opinion, is a human behaviour devised as a solution to this problem.

Logically one can do two things: try to solve the problems caused by our excess ability to make associations by more thinking and by constructing thoughts or theories that bring relief, or try to stop thinking (which is very difficult). The first solution gives rise to ideas that Richard Dawkins has called 'memes' — thought constructions that endow an individual with certainty about its own fate.

A memetic selection pressure can then be inferred: the most satisfactory memes will be selected from the thought pool and then distributed — horizontally — into different brains. Meme selection, meme classification and memetic evolution then become legitimate objects of study. Moreover, memes have a high adaptation capacity as is shown by the changes that Western religious doctrines have gone through to adapt to the findings of science.

So religion could be considered as a meme. Gods, divine powers, or holy trees are believed to let us influence the future. Indeed religion helps individuals to function more efficiently, as Baidins suggested[2]. But that is not because some individuals have some genetic ability for religion, but because religion is a meme. Moreover, unlike Josephson and Baidins, I do not consider altruism as the essence of religion, but its memetic property as defined above. Initially people tried to influence gods and powers — and thus the future and their own fate — with offerings; only later were things such as promoting altruistic behaviour and rules for social organization grafted onto religion. Even then the essence of religion remains the influencing of the future: the major reason for behaving according to the rules is that one can propitiate the deity by doing so.

Another interesting meme, which could be regarded as co-evolving with religion, is anthropocentrism. That is a meme because it provides an individual with self-confirmation by the assurance that he/she belongs to a superb (divine) species.

To be fair, one should then ask whether science is a meme. Astronomy certainly was from the very beginning of cultural history. Astronomy allows us to foresee events such as eclipses or seasonal weather changes. That may be why astronomy is the only branch of science developed to a high degree early in cultural history, and independently in different cultures. It brought power to those able to make the necessary calculations and was evidently considered sufficiently worthwhile to justify the building of enormous — scientific — measuring constructions. (Observe that priests were also astronomers in many cultures.)

For scientific reasoning itself to be accepted as a way of enhancing certainty had to wait for Newton. Then people suddenly realized that our own 'reason' could unravel divine rules. People started to 'believe' in science, which had been considered for many centuries as merely suited to resolve practical problems (such as how to build cathedrals for the purpose of religion, the major meme in the pre-scientific world). Thus the fact that science became a meme might be the basic reason for its sudden explosion.

The nonmemetic way to tackle the problem is to stop thinking. No one wants to eliminate the other root of the problem (feelings), because emotion developed earlier and is more essential to our functioning. Elimination of mental activity allows us to reach directly the state of animal happiness. Again, two major approaches can be distinguished.

Buddhism (generally not considered a religion, *pace* Josephson[1]), is one technique. Meditation can produce a happy feeling of unawareness, the not-knowing state of animals.

Materialistic nonmemetic solutions become possible in societies of plenty. People try to stop thinking by emphasizing the essential (animal) needs: they try to stimulate their pleasure centres directly with all kinds of chemicals or they try to experience joy through evolutionary channels by exaggerated feeding, sexual or self-confirmation behaviour.

All of this is only a hypothesis, but one that allows the interdisciplinary scientific study of human behaviour, including religion. It might give us an opportunity to approach very different kinds of human behaviour (from killing for ideas to driving cars that are too big) with a single key: we are doing all of this because evolution made us naturally unhappy organisms, struggling with the emotional consequences of our excess of associative capacity.

Mario Vaneechoutte
Department of Clinical Chemistry, Microbiology & Immunology, Blok A, University Hospital, B 9000 Ghent, Belgium

1. Josephson, B. D. *Nature* **362**, 583 (1993).
2. Baidins, A. *Nature* **346**, 693 (1990).